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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,140	10/31/2000	David Hoyle	TI-30554	1023
23494	7590	09/09/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,140

Applicant(s)

HOYLE, DAVID

Examiner

Tan V. Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-11 is/are pending in the application.
4a) Of the above claim(s) 8 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 9-11 is/are rejected.
7) ☐ Claim(s) 6 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman in view of either Balkanski et al (record reference) or Saishi et al. (record reference).

Rejection grounds continue to be set forth in the previous Office action, paragraph #2, mailed March 11, 2005.

3. Claims 1-5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chevilat et al (IBM tech. Discl. Bull.) in view of either Balkanski et al (record reference) or Saishi et al. (record reference).

Rejection grounds continue to be set forth in the previous Office action, paragraph #3, mailed March 11, 2005.

4. Applicant's arguments filed on 6/13/05 have been fully considered but they are not persuasive.

Applicant, in his remarks, argues major points that:

1. "[t]hus, Hoffman does not describe or suggest forming a most significant product of a first element of the first pair of elements (as only element B is described) and a most significant element of the second pair of elements and a least significant product of the first element of the first pair of elements and a least significant element of the second pair of elements.

Hoffman also does not describe or suggest shifting the most significant product left by a width of the least significant element of the second pair of elements prior to adding the most significant product to the least significant product";

2. "Balkanski further fails to remedy the failure of Hoffman to describe or suggest shifting the most significant product left by a width of the least significant element of the second pair of elements prior to adding the most significant product to the least significant product";

3. "Saishi further fails to remedy the failure of Hoffman to describe or suggest shifting the most significant product left by a width of the least significant element of the second pair of elements prior to adding the most significant product to the least significant product";

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4. "[c]laims 1-6 also stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chevillat et al. (IBM Technical Disclosure Bulletin) in view of either Balkanski et al (record reference) or Saishi et al. (record reference). Applicant requests reconsideration and withdrawal of these rejections for at least the reason that none of the references describe or suggests fetching a first pair of elements and a second pair of elements and forming a most significant product of a first element of the first pair of elements and ... and a least significant product of the first element of the first pair of elements and a ...";

5. [c]laims 9-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman in view of either Balkanski or Saishi . Applicant requests reconsideration and withdrawal of these rejections for at least the reason that none of the references describe or suggests storage circuitry for holding pairs of elements ..."; and

6. "Chevillat does not describe or suggest storage circuitry for holding pairs of elements as A Register and B register are 12-bit registers that cannot store the two elements (12-bit element and 4-bit element) of the 16-bit multiplication".

With respect to the argument, the examiner carefully reviews all the applied references and the claimed invention.

First, for argument #1, because the claim only uses the "first element of the first pair of elements" in the claim, the "value B" is considered the claimed feature. It is noted that the "value B" maybe stored in "2*N bits" with N most significant bits are zeros.

Second, for arguments #2 & #3, Hoffman does shifts a portion of data (element 130). Balkanski et al and Saishi et al do show the claimed "shifting the most significant product left by a width of the least significant element".

Third, for argument #4, because the claim only uses the "first element of the first pair of elements" in the claim, the "12-bit" is considered the claimed feature. It is noted that the "12-bit" maybe stored in the operand which is greater 12-bit having most significant bits are zeros.

Fourth, for arguments #5 & #6, because the claim only uses the "first number of elements from the storage" (claim 9, lines 4-5) in the claim [9], the examiner analyzes the claim invention similar to independent claim 1.

Therefore, the rejections are still proper.

5. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the novel "the first element of the first pair of elements is a **most significant element** of the first pair of elements" feature as recited in dependent claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai
Primary Examiner